Exhibit 2

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1   UNITED STATES DISTRICT COURT

2   NORTHERN DISTRICT OF CALIFORNIA

3   SAN FRANCISCO DIVISION

4   ORACLE AMERICA, INC.,

5   Plaintiff,

6   vs.   Case No. 3:10-cv-03561-WHA

7   GOOGLE, INC.,

8   Defendant.

   _____

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13   *HIGHLY CONFIDENTIAL*

14   PURSUANT TO THE PROTECTIVE ORDER

15   VIDEO DEPOSITION OF JAMES R. KEARL, Ph.D.

16   San Francisco, California

17   Wednesday, March 23, 2016

18   Volume I

19

20

21

22   REPORTED BY:

23   REBECCA L. ROMANO, RPR, CSR No. 12546

24

25   Job No. CS2276036

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1   INDEX
2 DEPONENT   EXAMINATION
3 JAMES R. KEARL, Ph.D.   PAGE
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5   BY MR. RAGLAND   11, 201
6   BY MS. HURST   156, 206
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10   EXHIBITS
11 NUMBER   PAGE
12   DESCRIPTION
13 Exhibit 1580   Expert Report of
14   Professor James R. Kearl,
15   (Corrected 3/21/2016);   27
16
17 Exhibit 1581   Appendix C: Materials
18   Relied Upon Legal Filings;   68
19
20 Exhibit 1582   Article - Platform Choice by
21   Mobile App Developers,
22   5/29/2014;   70
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24
25 /////

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1   EXHIBITS (cont'd)
2 NUMBER   PAGE
3   DESCRIPTION
4 Exhibit 1583   Article - Essays on the
5   Economics of the Smartphone
6   and Application Industry,
7   September 2013;   77
8
9 Exhibit 1584   Exhibit 1, Comparison of
10   Mr. Malackowski's and
11   Dr. Leonard's Estimates of
12   Android Traffic Acquisition
13   Costs (TAC).   107
14
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1 San Francisco, California; Wednesday, March 23, 2016
2   8:38 a.m.
3   ---o0o---
4
5   THE VIDEOGRAPHER: Good morning. We are
6 on the record at 8:38 a.m. on March 23rd, 2016.
7   This is the video-recorded deposition of
8 Dr. James Kearl. My name is Frank Clare here with
9 our court reporter, Rebecca Romano.
10   We are here from Veritext Legal Solutions
11 at request of counsel for defendant.
12   This deposition is being held at
13 Keker & Van Nest in San Francisco.
14   The caption of this case is
15 Oracle America, Incorporated, versus
16 Google, Incorporated, Case No. 3:10-cv-03561-WHA.
17   Please note that audio and video
18 recording will take place unless all parties agree
19 to go off the record. Microphones are sensitive
20 and may pick up whispers, private conversations,
21 and cellular interference.
22   I am not related to any party in this
23 action, nor am I financially interested in the
24 outcome in any way.
25   At this time, will counsel please

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1 identify yourselves for the record.
2   MR. RAGLAND: Steven Ragland of
3 Keker & Van Nest on behalf of Google. Also with me
4 Stephen P. Rusek of Edgeworth Economics, and
5 Susan Kim of Google.
6   MS. HURST: Annette Hurst of
7 Orrick Herrington & Sutcliffe for Oracle America.
8   Also with me are my colleagues,
9 Andrew Kim and Rob Keele, and client
10 representative, Deborah Miller.
11   MR. COOPER: My name is John Cooper. I'm
12 with the law firm of Farella Braun + Martel. I am
13 counsel for Dr. Kearl, who is Judge Alsup's
14 Rule 706 court-appointed expert.
15   And with me is Dr. Gregory Adams of CRA.
16 And Dr. Kearl is also with CRA.
17   THE VIDEOGRAPHER: Thank you.
18   The court reporter will administer the
19 oath and examination may begin.
20   THE REPORTER: If you could raise your right
21 hand for me, please.
22   THE DEPONENT: (Complies.)
23   THE REPORTER: You do solemnly state,
24 under penalty of perjury, that the testimony you
25 are about to give in this deposition, shall be the

3 (Pages 6 - 9)

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1 truth, the whole truth and nothing but the truth?
2   THE DEPONENT: I do.
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1   JAMES R. KEARL, Ph.D.,
2 having been administered an oath, was examined and
3 testified as follows:
4
5   EXAMINATION
6 BY MR. RAGLAND:
7   Q. Good morning --
8   A. Good morning.
9   Q. -- Dr. Kearl.
10   First, do you have any time constraints
11 today?
12   A. I have to be out of the room at
13 6:00 o'clock tonight.
14   Q. Okay. Oracle and Google have agreed that
15 we would split the time today with me going first
16 for about half -- for half the time and then Oracle
17 examining for half the time. But we'll make sure
18 we meet your 6:00 p.m. deadline.
19   A. But I will be back Friday, so...
20   Q. Yes.
21   MS. HURST: Unless we get out of here
22 soon.
23   THE DEPONENT: Yes.
24   MR. RAGLAND: And maybe five minutes till
25 6:00, Ms. Hurst and I will talk and we'll see

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1 whether you need to come back Friday or not. We'll
2 figure that out.
3   THE DEPONENT: Okay.
4   Q. (By Mr. Ragland) I know this is not your
5 first rodeo, so I won't bother with all the
6 preliminaries.
7   But I'll just note that if you don't
8 understand any of my questions, of course, please
9 ask me to clarify or repeat them. And anytime you
10 need a break, just let me know.
11   A. Okay.
12   Q. Dr. Kearl, what is your understanding of
13 what has been accused of copyright infringement in
14 this case?
15   A. It's the attributes of 37 Java APIs,
16 structure sequence and organization, the SSO, and I
17 think declaring code.
18   Q. Do you know, generally, what an API is?
19   A. Yes.
20   Q. And what's your understanding of that?
21   A. APIs are hooks that programmers can use
22 so that rather than forming -- for example, having
23 to actually program the computer to do something
24 like print, they can call an API. Might be called
25 print, for example. Then there's an underlying

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1 code that then executes a print function for them.
2   Q. Do you have any understanding of what
3 functions the accused sequence structure and
4 organization of the 37 APIs perform within the
5 Android system?
6   A. No.
7   Q. Fair to say then you have no
8 understanding of the relative importance of the
9 structure sequence and organization of those
10 37 APIs as compared to the other 130-plus APIs that
11 comprise Android?
12   A. For the most part, that's -- that's
13 correct. It's my understanding that Oracle's
14 position on this is that those 37 APIs are
15 essential or important or very important in -- for
16 app developers to develop apps.
17   Q. You say that that's Oracle's position.
18   Do you have an opinion one way or the
19 other as to whether or not that's -- that position
20 is factually accurate?
21   A. No. That's a technical issue. I'm not
22 opining on technical issues.
23   Q. You understand, Dr. Kearl, that the Java
24 programming language is available for free for
25 anyone to use?

4 (Pages 10 - 13)

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1 definitive narrative here that cuts through that.
2   Q.   You are aware, are you not, that Google
3 prevailed on the copyright part of the case in the
4 prior trial in 2010?
5   MR. COOPER: Object --
6   MS. HURST: Object to the form.
7   MR. COOPER: Object as to form.
8   THE DEPONENT: No. They -- I thought
9 Google lost on the copyrights. That's why we're
10 here.
11   Q.   (By Mr. Ragland) Okay. Well, as far as
12 in the district court, are you aware that
13 Judge Alsup held that the sequence structure and
14 organization of the 37 Java APIs are not
15 copyrightable?
16   A.   But that's not law. Judge Alsup was
17 overturned by the fed circuit, so...
18   MR. COOPER: Object as to form.
19   MS. HURST: Same.
20   Q.   (By Mr. Ragland) And I'm just trying
21 to -- we'll go through the chronology. But as far
22 as in the district court, that in 2012 -- the trial
23 in 2012, once the curtain closed on the
24 district court, there was a judgment that the SSO
25 of the 37 APIs were not copyrightable.

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1   You understand that, right?
2   MR. COOPER: Object as to form.
3   THE DEPONENT: Two comments.
4   One is I'm not sure what relevance this
5 is to anything that's here, so I'm a little
6 perplexed by this.
7   Two, the jury found infringement.
8   Judge Alsup then made a ruling,
9 apparently, that the APIs were not copyrightable.
10 The defense circuit said he was wrong.
11   As I understand the legal standing here
12 said that the jury verdict held.
13   So as of today, there is a finding of
14 infringement.
15   Q.   (By Mr. Ragland) Well, not to get too
16 legal, but -- but you don't whether there's a
17 finding of infringement or a finding of copy, and
18 that might lead to infringement if there's no fair
19 use.
20   Those nuances --
21   A.   Yeah, that's --
22   MR. COOPER: Object as to form.
23   THE DEPONENT: That's --
24   MS. HURST: I do, too.
25   THE DEPONENT: That's fair. That's fair.

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1   MR. RAGLAND: So we've been going about
2 an hour. Why don't we take a -- take a short
3 break.
4   THE DEPONENT: Okay.
5   THE VIDEOGRAPHER: We are off the record
6 at 9:38 a.m.
7   (Recess taken.)
8   THE VIDEOGRAPHER: We're back on the
9 record at 9:52 a.m.
10   Q.   (By Mr. Ragland) So Dr. Kearl, just
11 going back to what we were discussing about before
12 -- discussing before the break.
13   If you assume, hypothetically, that
14 Google believed -- the evidence shows that Google
15 believed that its use of the 37 Java API -- APIs in
16 Android was a fair use under the copyright law,
17 would that affect your opinion that Google's recent
18 implementation of OpenJDK implies that there were
19 costs back in 2007 --
20   MS. HURST: Object to the form.
21   MR. COOPER: Object to the form.
22   Q.   (By Mr. Ragland) -- of using it?
23   A.   Let -- let me understand the
24 hypothetical. So the question is if, in the
25 upcoming trial, Google prevails on the fair use

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1 argument, then --
2   Q.   Well, that's -- that's actually --
3   A.   -- there's no damages trial, so...
4   Q.   That's right. Actually, what I'm trying
5 to get at and -- and -- and maybe just sort of talk
6 it over and see if we understand each other.
7   You've offered an opinion that the fact
8 that Google has gone to an OpenJDK license in 2015
9 implies that back in the 2007 time frame, there
10 must have been some costs associated that were not
11 desirable to Google or it would have done it then.
12   That's sort of, in essence, what you're
13 saying; is that right?
14   A.   Not quite.
15   Q.   Okay.
16   A.   Dr. Leonard comes up with this very low
17 estimate in the JDK case of $85,000. And my
18 observation was simply, if Google could have, at
19 any point in the last nine years, resolved this
20 issue by spending $100,000, it probably would have
21 done so. And that it didn't do so suggests that
22 this is probably not a credible estimate.
23   Q.   And I'm asking, might it also be possible
24 that at least in the pre-2010 time frame, that if
25 Google believed that there was nothing wrongful

15 (Pages 54 - 57)

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1 about its use of the 30s -- SSO of the 37
2 Java APIs, that could be a reason why it didn't do
3 OpenJDK back in -- at that time frame?
4   A. Perhaps. But as I said earlier, how you
5 characterized what Google believed, or what Oracle
6 believed, is a factual dispute, that early --
7 what -- you know, there are statements on both
8 sides. I'm -- I'm not repeating myself, and the
9 jury will just have to decide that matter, not me.
10   Q. Let's turn, please, to -- back to
11 Exhibit 1580, your report, and paragraph 49, which
12 is on page 26.
13   You say in this paragraph that you
14 neither endorse nor reject, quote, the Oracle
15 theory that a large number of apps was important to
16 the acceptance of a new smartphone platform such as
17 Android.
18   You see that part?
19   A. Yes.
20   Q. Okay. And if the evidence at trial
21 proves that a large number of apps did not drive
22 acceptance of Android, how would that affect your
23 opinion with regards to what you say in this
24 paragraph?
25   A. Well, I -- I think if you go back to an

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1 earlier paragraph, I say that if applications
2 weren't important, then I would tell a jury that
3 the APIs have low value.
4   Q. Essentially, zero damage -- actual
5 damages?
6   A. Yeah. I mean, low value.
7   Q. And so is it fair to say that the
8 evidence at trial proves that Android acceptance by
9 consumers drove the development and availability of
10 apps, rather than vice versa, that that implies
11 that there are relatively low damages?
12   A. No, that's a different question. And
13 this is also a factual dispute that the jury will
14 have to resolve.
15   And that is, at the launch, at the
16 outset, what were the expectations that Google had
17 about how many apps it needed and how rapidly it
18 needed to have them developed and so on. So it's
19 not the ex post what happened. It's what --
20 presumably what Google thought it needed at launch.
21   Q. So I -- my understanding may be
22 incorrect, so feel free to correct it.
23   But I understand that you take issue with
24 Dr. Leonard's counterfactual analysis regarding the
25 cost to train developers an alternative language

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1 based on a theory, if proven, that a large number
2 of apps were necessary for success of the platform.
3   A. Yes, and may still be necessary.
4   Q. So if the evidence at trial actually
5 proves that the large number of apps are not
6 important to the success of the platform but,
7 rather, apps follow consumer adoption of the
8 platform, how would that affect your critique of
9 Dr. Leonard on this?
10   A. It -- it wouldn't change it. My -- my
11 critique is exactly the same. I mean, if -- if
12 it's a small number of apps, you have to say -- you
13 have to ask the question, was Google prescient
14 enough to know which small number of apps it needed
15 to succeed.
16   The fact that we see a small number of
17 apps that are disproportionately represented in
18 downloads is not the same as saying only a small
19 number of apps were needed for Google to be
20 successful with this Android product.
21   Q. You also say in -- in paragraph 49, and
22 it -- it appears on page 27 of your report: While
23 I do not endorse or reject the Oracle theory --
24 strike that.
25   You say on -- at the end of paragraph 49

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1 on page 27, that you neither endorse nor reject
2 Oracle's theory and critique of Dr. Leonard.
3   Why do you not endorse that theory?
4   A. Oracle could argue a large number of apps
5 for -- for one -- at least one of two reasons -- or
6 two reasons.
7   One is that it needed a large number of
8 apps so that there would be a small number of
9 successful apps. And it didn't know the successful
10 apps, so it just needed to -- to permit lots of
11 writing so -- and -- and -- and -- and that the
12 market would then sort of evolve. But it did need
13 successful apps.
14   Another view that -- that I note down
15 in -- in -- elsewhere, is the success of Android
16 could be attributable to the fact that there are a
17 myriad of heterogeneous preferences and you need
18 lots of apps to apply to those heterogeneous
19 preferences.
20   I gave the example of back-country
21 skiers. People in San Francisco could care
22 about -- care less about an -- an app that
23 forecasted avalanches. But if you live in
24 Park City, this matters.
25   An Android could be valuable precisely

16 (Pages 58 - 61)

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1 because it was a platform in which you got lots and
2 lots and lots of those kinds of things, highly
3 valuable apps to a small number of people.
4   So Dr. Leonard's focus on a small number
5 of apps is -- is really not, as I say -- as my
6 opinion expresses and you read -- doesn't really
7 address what I believe to be Oracle's principal
8 contention, which is for a variety of reasons we
9 needed a large number of apps. Put differently,
10 it's -- it's not helpful in analyzing that
11 contention.
12   Q. So if the evidence at -- at trial ends up
13 proving that a large number of apps was not
14 required, how would that affect your opinion?
15   MS. HURST: Object to the form.
16   THE DEPONENT: Well, if the evidence at
17 trial is you didn't need a large number of apps,
18 and Google was prescient and could pick a small
19 number of apps that drove its thing, and that they
20 weren't relying on the 37 APIs, then -- then
21 damages are small.
22   Q. (By Mr. Ragland) You said that those
23 aren't relying on the 37 APIs.
24   What -- what -- what do you mean by that?
25   A. Well, even the large number of successful

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1 apps could rely on the 37 APIs. So they're
2 successful in part, whatever part would be a
3 factual dispute, because the writers of those apps
4 call one or more of the 37 APIs.
5   Q. And from an economics perspective, would
6 you have to isolate the aspect that relies on the
7 SSO of those 37 APIs from the apps' reliance on any
8 other aspect of the Android APIs or platform --
9   MS. HURST: Object to form.
10   Q. (By Mr. Ragland) -- in order to
11 determine damages?
12   A. I don't think so.
13   Q. Why not?
14   A. Two responses. One is, you can imagine
15 that in order to be successful a platform has to
16 offer a full array of programming access points.
17 No single app uses all of them. But no programmer
18 is going to program for something in which they
19 don't have the flexibility to go where they want to
20 go.
21   Q. So if it's the case that the evidence
22 shows that a large number of apps are written
23 without use of the SSO of the 37 APIs, then would
24 you see that as effectively an analysis as to
25 whether or not there are any actual damages in this

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1 case?
2   MS. HURST: Object to form.
3   THE DEPONENT: I -- I think that's the
4 same question you asked me earlier in a slightly
5 different version, although you can re-ask me, if I
6 get this wrong.
7   Which is, if the 37 APIs are not proven
8 at trial to be important in determining the number
9 of apps, then the damages here are small. I mean,
10 I -- I think I'm clear about this matter, that it
11 is a technical issue and a factual issue about the
12 relationship between these 37 Java APIs and the
13 number and extent of app development. That's not
14 something I have any expertise in.
15   What my expertise is, if you have a large
16 number of apps or if you needed a large number of
17 apps, so -- so once we decide what the number is,
18 how do I monetize the value of -- of the platform.
19   Q. (By Mr. Ragland) You also say in your
20 report, Dr. Kearl, that, quote, Thus it is not only
21 the availability of the most popular apps that is
22 important, smartphone users also care about the
23 number of other less popular apps.
24   My questions just are, what evidence have
25 you seen that supports the statement about

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1 smartphone users caring about the number of less
2 popular apps?
3   A. That Apple and Google Play have millions
4 and millions of apps, and that people keep writing
5 new apps. And they appear to be writing them for
6 specific types of users. The avalanche forecasting
7 app would be an example.
8   Q. And -- and that's a -- is that a
9 hypothetical example or an actual --
10   A. No.
11   Q. -- app that exists?
12   A. Google and Apple are paying money to app
13 developers to develop new apps even though they've
14 got a gazillion apps on their site already.
15   Q. Are you aware of whether or not
16 Mr. Malackowski --
17   A. Excuse me.
18   Q. Sure.
19   -- whether or not Mr. Malackowski
20 presented any evidence to support his theory that
21 smartphone users care about the number of apps?
22   MS. HURST: Object to the form.
23   THE DEPONENT: I don't recall.
24   Q. (By Mr. Ragland) To your knowledge,
25 has -- has Oracle or its experts estimated any

17 (Pages 62 - 65)

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1   (Exhibit 1582 was marked for identification by
2 the court reporter and is attached hereto.)
3   Q. (By Mr. Ragland) So Dr. Kearl, I -- I've
4 put that report in front of you marked as --
5 as 1582, and I'm going to ask you a few questions
6 about it. I'll direct you to specific pages, but
7 obviously you can -- you can review it to the
8 extent you want to.
9   I'm first going to direct you to
10 page 4 of Exhibit 1582. And if you could take a
11 look in the first full paragraph, the second clause
12 in the second sentence there states that --
13 you know, Bresnahan, Orsini and Yin, who are the
14 authors of this paper, state: We find that the
15 most demanded apps tend to be from established
16 firms.
17   Do you agree with that statement?
18   MS. HURST: Object to the form.
19   THE DEPONENT: I -- I haven't
20 independently done research in this area so I have
21 no reason to agree or disagree with it.
22   Q. (By Mr. Ragland) Are you aware of any
23 report, studies or -- or evidence to the contrary?
24   A. No, but -- but this is ex post evidence
25 again.

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1   Q. And what is the significance of -- of
2 noting that this is ex post evidence with regards
3 to the statement that the most demanded apps are
4 from established firms?
5   A. Because they're -- they're looking in --
6 in 2014, at what was successful, and I don't think
7 there's any dispute that there's a small number of
8 apps that have been phenomenally successful and a
9 large number of apps that have been failures. But
10 that's -- doesn't address, I believe, what I think
11 Oracle's assertion is in this case.
12   Q. And -- and why -- why -- why does it not
13 address that, to your understanding?
14   A. Well, it goes back to what I've now said
15 two or three times, which is, one -- at least it's
16 my understanding, that their assertion is that when
17 the platform launched, they needed people who --
18 they needed acc- -- Google needed access to the
19 Java programmers in order to get a large enough app
20 community -- writing community that we would have,
21 in the end, these kinds of successful apps.
22   So -- so it doesn't tell us anything
23 about how many entrants you had to have -- what
24 I've characterized two or three times now -- the
25 race, in order to see ex post the successful

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1 winners in the race.
2   And simply looking at the successful
3 winners does not address, as I say in my report,
4 the question that Google poses, or the assertion
5 that Google makes -- Oracle, excuse me -- does not
6 address the -- the position that it's my
7 understanding Oracle takes in this matter.
8   (Discussion off the stenographic record.)
9   Q. (By Mr. Ragland) Could you turn to
10 page 6 -- we'll say -- yeah, turn to page 6 of
11 Exhibit 1582.
12   A. By -- by -- by the way, let me -- let me
13 make one other comment. And I -- and I want to be
14 very careful because I'm -- I'm not arguing for
15 either side here, so I don't want this to be
16 interpreted as argumentative.
17   But the lead-in to the sentence that you
18 pointed me to -- it says, "Despite the
19 expectations" -- so apparently Bresnahan and his
20 colleagues, ex ante, expected that that -- there
21 would be -- that more things would be important
22 than ex ante and ex post they found. And I think
23 loosely that's the Oracle position, so...
24   Q. So they say -- it says: Despite
25 expectation that the massive entry due to platform

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1 sponsorship would lead to disruptive
2 entrepreneurial innovation, we find that the most
3 demanded apps tend to be from established firms.
4   So is what they're saying there that
5 there was an expectation that there would be a lot
6 of different entre- -- entrepreneurial and a whole
7 bunch of apps, and that was expected. But in
8 reality, what we find is that it's actually
9 established firms that have been creating the most
10 demanded apps?
11   A. Yes. Yeah.
12   Q. On page 6 of Exhibit 1582, if you look at
13 the second paragraph here in the third sentence,
14 the authors states: From a consumer perspective,
15 apps are highly skewed in their attractiveness,
16 most, about 80 percent of user demand, going to
17 about 20 of the 1.4 million apps.
18   You're not aware of any reports or
19 evidence to the contrary of that, are you?
20   A. No.
21   Q. Further down in the third paragraph on
22 the -- in the second sentence, the authors states:
23 The platforms predominantly match apps to users
24 through top lists.
25   Again, you're not aware of any evidence

19 (Pages 70 - 73)

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1 utility from the apps is accounted for.
2   Do you have any basis to disagree with
3 Dr. Kim's findings?
4   MS. HURST: Object to the form.
5   THE DEPONENT: Her findings are what they
6 are. And her -- what she says is what she says.
7 But the methodology she employs more or less
8 produces that result. That is, she -- she suggests
9 that the utility that app users get is the app
10 weighted by the proportion of downloads of the app.
11 So an extraordinarily popular app in her model has
12 very high utility and a rarely downloaded app has
13 little utility because it doesn't have very much
14 weight.
15   And -- and if you look at the
16 distribution of downloads -- I think I have a table
17 in my -- that shows -- you know, there's a handful
18 of apps that have millions, maybe even billions of
19 downloads and then a long tail of apps that don't
20 have very many. In her methodology, those don't
21 get any weight. So it's not surprising that they
22 don't matter in her regression.
23   Q. (By Mr. Ragland) Are you aware of any
24 studies or -- or -- or evidence that the avalanche
25 skier user, for example -- that there's enough

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1 people who are interested in the less popular
2 specialized apps to have any effect on the success
3 of a platform?
4   A. Just let me correct you. The -- the
5 purpose of the app is so you're not an avalanche
6 skier.
7   Q. Fair enough.
8   A. But that aside, no, I -- I don't know of
9 any evidence that's tested whether or not having
10 lots of apps that appeal to specific interests
11 matters.
12   There is, again, the indirect evidence,
13 which is that app writers write for fairly narrow
14 groups, lots of app writers, and believe that they
15 may be a success because they do that. And that,
16 again, Apple and Google both pay, or at least share
17 revenues with app writers, even though they have
18 all of the big apps already on their platform.
19   If the only thing that mattered to Google
20 was the top 100 apps, then that's all it would
21 offer on its platform. Why would it offer anything
22 more.
23   Q. Is it -- is your understanding is there a
24 cost to Apple or Google to make an app that may not
25 be popularly available -- to revenue share, right,

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1 there -- they don't pay the developers?
2   A. It's a revenue share. But there are
3 some, presumably, app costs to maintain a store
4 that has a billion apps on it and to screen apps
5 that they have -- they -- both of them, as I
6 understand, have screening methodologies or
7 screening individuals who sort of throw out apps
8 that violate something. So it's not a costless
9 activity. And -- and the fact that they're willing
10 to invite new apps onto the platform suggests that
11 they -- they care about appealing to lots of
12 people.
13   Q. If the cost associated with hosting or
14 making available a large number of less popular
15 apps are minimal, might that suggest that that's
16 not an important driver of the platform success?
17   A. I don't think so. I think the fact that
18 they want additional apps on the platform -- I
19 mean, it could be for one of two reasons I identify
20 in my report.
21   One is that they're not sure where the
22 next top 100 app is coming from. And they need a
23 lot of apps out there to have the race. So the
24 more entries they get, the more chances Angry Birds
25 will emerge or -- Words With Friends and -- and

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1 they're just not smart enough to pick the winners.
2   And the second possibility is that
3 there's some demand because the myriad of
4 heterogeneous users can find really important apps
5 to them that don't -- that aren't in the top 100 or
6 even in the top 10,000.
7   Q. Do you know of any research or studies
8 establishing that any consumer chooses between
9 smartphone platforms, based on availability of some
10 specialized apps?
11   A. I don't know of any studies. I've --
12 I've cited to you how an economist would think of
13 sort of indirect market evidence, and that's all I
14 know.
15   Q. Do you have any familiarity with video
16 game systems generally?
17   Not in a technical way, but Just sort of
18 know that there's like PlayStation and Xbox and
19 things like that.
20   A. Yes. I'm a grandfather and I have
21 grandkids, so --
22   Q. Fair enough.
23   A. -- so I know something about these.
24   Q. So what I'm just trying to get at is,
25 you know, these are certain games that are

21 (Pages 78 - 81)

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1   THE DEPONENT: I'm not sure I understand
2 the difference between that question and the
3 question you just asked. So...
4   Q. (By Mr. Ragland) I think the prior
5 question asked about miscellaneous apps.
6   And now I'm asking about not just the
7 miscellaneous bucket of apps, like for the skier
8 who doesn't want to be in an avalanche, but
9 generally apps, 100,000 versus 400,000 versus a
10 number of apps.
11   And maybe it's the same answer as the
12 prior question, and it's the same --
13   A. It is -- it is the same answer. And --
14   Q. If I could turn you, please, to --
15   A. Let me -- let me be clear, though, that
16 what my report does, I think, responsive to
17 Judge Alsup's order -- order -- Judge Alsup's order
18 is to say the jury will have before it disputed
19 facts.
20   If it comes down on the facts in this
21 way, here's a way to think about the damages that
22 follow.
23   So I haven't spent a lot of time looking
24 for facts. I'm not trying to advocate a particular
25 position here, although I have criticized some

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1 positions as inconsistent, I think, with basic
2 economic sense.
3   But -- so whether I am or not aware of
4 that, if the jury has that evidence or evidence
5 that would lead them to understand and agree that
6 that mattered, then my report, again responsive to
7 Judge Alsup's direction, is to say, okay, here's
8 how to think about damages in that case.
9   Q. In paragraph 65 of your report, which is
10 on pages 34 and 35 of Exhibit 1580, you say that,
11 "The way the Kim model works is that platform
12 market shares are a function of the weighted
13 availability of apps on that platform with the
14 weights determined by the popularity of the app."
15   Why -- my question is maybe very
16 simplistic. But why do you believe that the Kim
17 model works in that way?
18   A. If -- if you look under the hood of -- of
19 the way that Dr. Leonard sort of programs it, and
20 you also look at the more summary data and
21 discussion in Kim's chapter, the apps are weighted
22 as they enter into the various components of the
23 model. And they are weighted by, more or less,
24 downloads -- download shares.
25   So that an app that's downloaded a

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1 million times has greater weight in the analysis
2 than an app that's downloaded five times.
3   Q. And how is that different to your
4 understanding from what Dr. Leonard has done?
5   MR. COOPER: Object to form.
6   THE DEPONENT: I'm just characterizing
7 what Dr. Leonard has done, I think. I'm not doing
8 something different than Dr. Leonard has done. I'm
9 just trying to explain what I think he believes the
10 Kim model to be.
11   I mean, there is this issue here that's a
12 little unusual.
13   Had Dr. Leonard put forward a regression
14 in his analysis that looked like the Kim model --
15 whereas, he took discrete choice analysis, he took
16 the very transformation, he estimated a model -- we
17 would have said, give us the data and let us test.
18   I mean, it's a sensible thing to do. And
19 Dr. Leonard is a fine econometrician, so there
20 wouldn't be disputes about whether it was refereed
21 or not refereed, at least in my view. That
22 wasn't -- that -- that wouldn't be where you would
23 put economic weight on this.
24   You would say, Let me see the data and
25 let me test whether or not the parameter estimates

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1 that you think are important are sensitive to the
2 data, to the way the data is created, to the time,
3 and so on.
4   We have none of that. Okay. It's
5 literally impossible to test whether the parameters
6 that come out of the Kim model that Leonard relies
7 upon are sensitive to anything.
8   We don't know the data. We didn't even
9 know all of the Kim model parameters.
10 Surprisingly, one of the key parameters he has to
11 get by email from -- from Kim.
12   So there's a -- a bit of a disadvantage
13 here.
14   And all I can do is to do what he's done,
15 is to say, okay, here's what the Kim model does,
16 and -- and here's how Leonard has programmed in
17 GAUSS in order to implement his market share
18 adjustments of the Kim model.
19   I can do that. I can -- I have
20 replicated what -- what -- what he did.
21   And then said, okay, let's go a step
22 further and -- and relax some of the assumptions
23 that are in his paper about the two parameters and
24 about the things that would be or not be available
25 in the but-for world, and, if tested, the

27 (Pages 102 - 105)